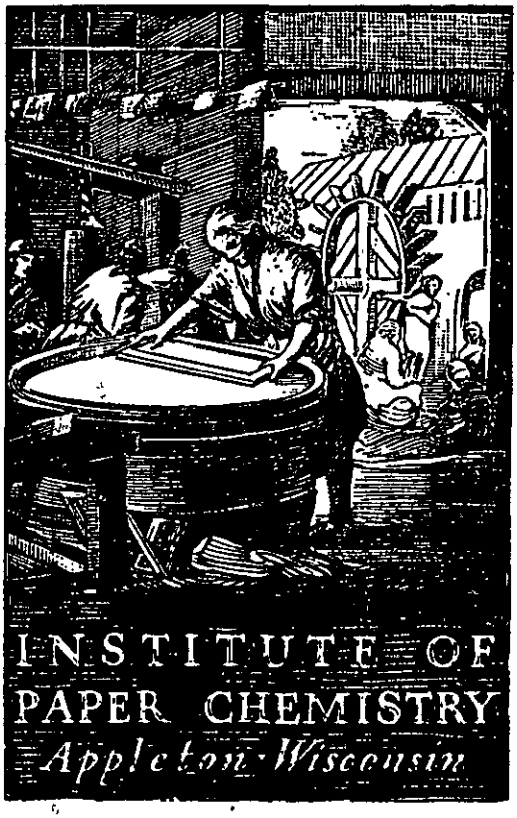

CONTINUOUS BASELINE STUDY

Project 1108-13

Report 180

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

December 1, 1962

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

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Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

INTRODUCTION

As requested by the Technical Committee of the Fourdrinier Kraft Board Institute, Inc., the reports pertinent to the continuous base-line study on 42-lb. fourdrinier kraft linerboard are now being prepared by The Institute of Paper Chemistry on a bimonthly basis instead of the previous monthly basis. This new system was initiated on August 1, 1961. This report is the eighth under the new system and presents results obtained during the months of October and November, 1962.

PRESENTATION AND DISCUSSION OF TEST RESULTS

Each sample lot received for evaluation during October and November was evaluated for basis weight, caliper, bursting strength, and Elmendorf tearing strength. The average strength results for each mill may be seen in Table I and are graphically presented in Fig. 1 to 5. In addition to a comparison of the current mill averages for the various tests, Table I also shows the current F.K.I. averages, the cumulative F.K.I. averages, and F.K.I. indexes. For each test, the current mill average represents the average obtained on all sample lots evaluated during a given period, the current F.K.I. average represents the average of the current mill averages, and the cumulative F.K.I. average represents the average of the current F.K.I. averages for the previous twelve months excluding the current period. The F.K.I. index expressed in per cent is the ratio of the current F.K.I. average to the cumulative F.K.I. average.

In Table II, a tabulation of the number of sample lots submitted by each mill during October and November is shown.

Supplementary to the basis weight data given in Table I, a tabulation is given in Table III of the amount by which the basis weight average for each mill varies from the 42-lb. specification set forth in Rule 41.

Shown below from Table I are the maximum and minimum current mill averages for each test and also the current and cumulative F.K.I. averages.

TABLE I

SUMMARY OF COMPOSITE MILL AVERAGES--OCTOBER AND NOVEMBER, 1962

Mill	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	Elmendorf Tear, g./sheet In Machine	Elmendorf Tear, g./sheet Cross Machine
A	42.0	13.3	111	271	319
B	43.4	12.8	101	400	416
C	42.7	12.8	106	380	409
D	41.9	12.4	101	345	385
E	42.1	13.1	117	306	356
F	43.3	12.3	112	354	399
G	42.7	13.3	111	304	360
H	42.3	12.4	108	301	363
I	43.2	13.0	106	343	351
J	42.5	12.5	109	346	353
K	43.4	12.7	116	319	366
L	43.2	12.9	112	331	382
M	42.7	12.1	115	330	375
N	42.5	13.4	109	334	394
O	42.0	12.8	104	328	381
P	No samples submitted.				
Q	42.7	11.9	106	373	403
S	No samples submitted.				
T	43.6	12.3	115	310	364
U	42.4	12.8	102	302	361
V	43.5	12.7	100	361	391
W	No samples submitted.				
Current FKI Average:	42.7	12.7	109	334	375
Cumulative FKI Average:	42.9	12.7	110	322	370
FKI Index, %	99.5	100.0	99.1	103.7	101.4

TABLE II

NUMBER OF SAMPLE LOTS SUBMITTED BY EACH MILL
DURING OCTOBER AND NOVEMBER, 1962

Mill Code	Number of Sample Lots
A	7
B	5
C	6
D	3
E	8
F	6
G	7
H	12
I	2
J	4
K	8
L	8
M	3
N	6
O	7
P	0
Q	4
S	0
T	8
U	8
V	5
W	0
Total	117

TABLE III

PERCENTAGE DEVIATION FROM 42-LB. BASIS WEIGHT SPECIFICATION

Mill Code	
A	0.0
B	+3.3
C	+1.7
D	-0.2
E	+0.2
F	+3.1
G	+1.7
H	+0.7
I	+2.9
J	+1.2
K	+3.3
L	+2.9
M	+1.7
N	+1.2
O	0.0
P	---
Q	+1.7
S	---
T	+3.8
U	+1.0
V	+3.6
W	---

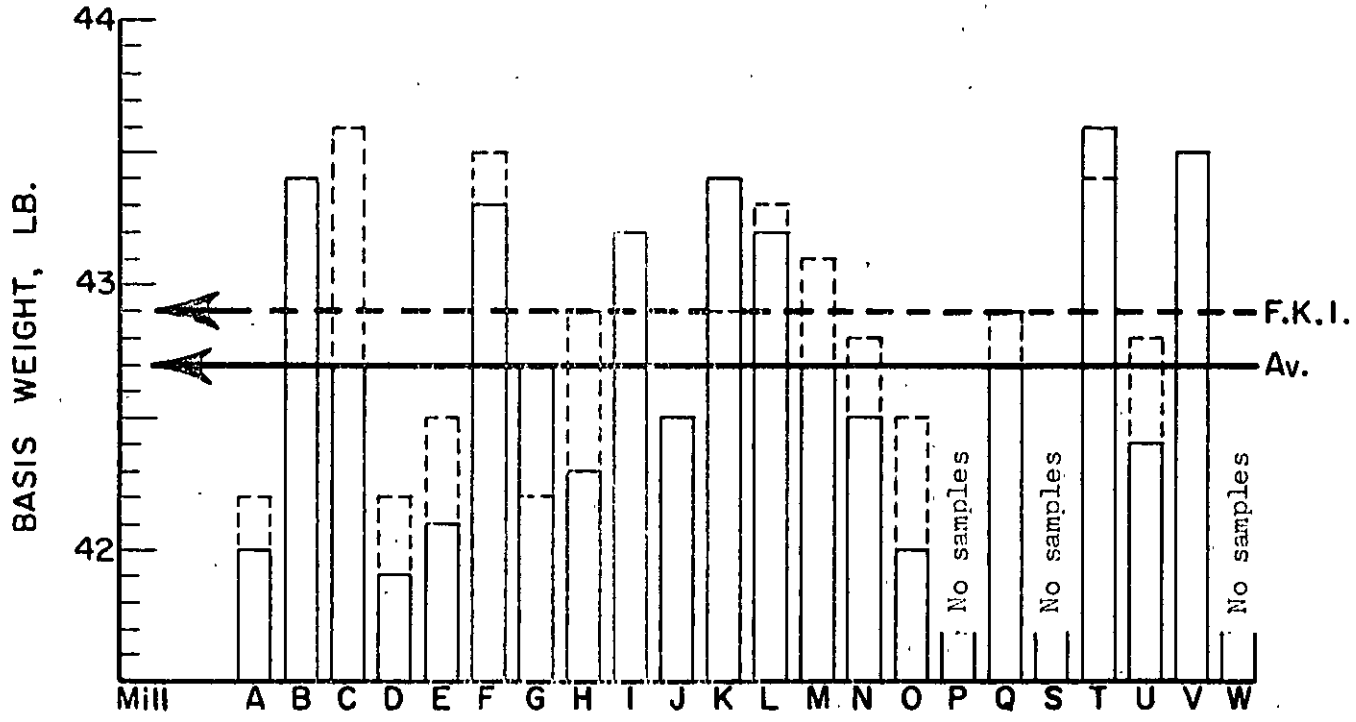

Figure 1. Comparison of Basis Weight Results

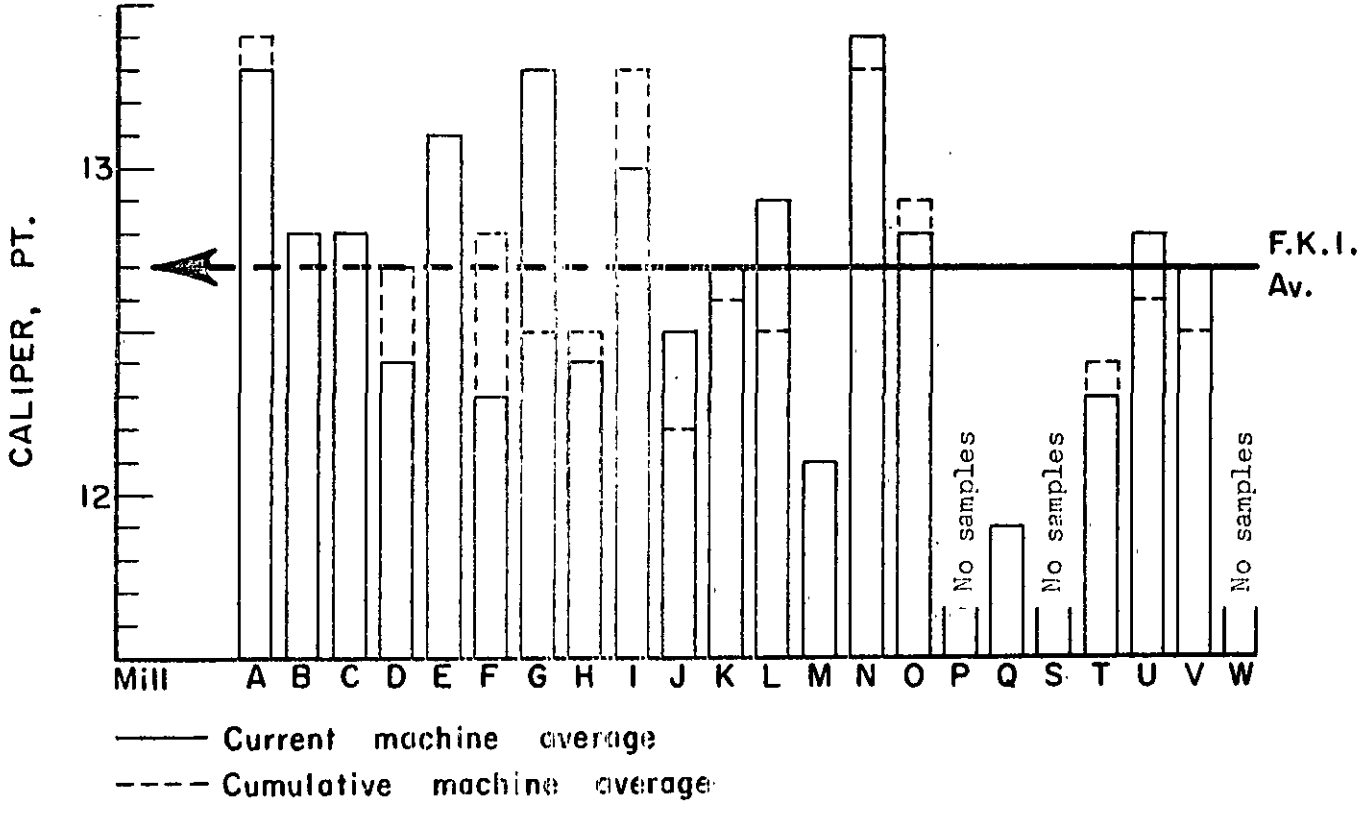

Figure 2. Comparison of Caliper Results

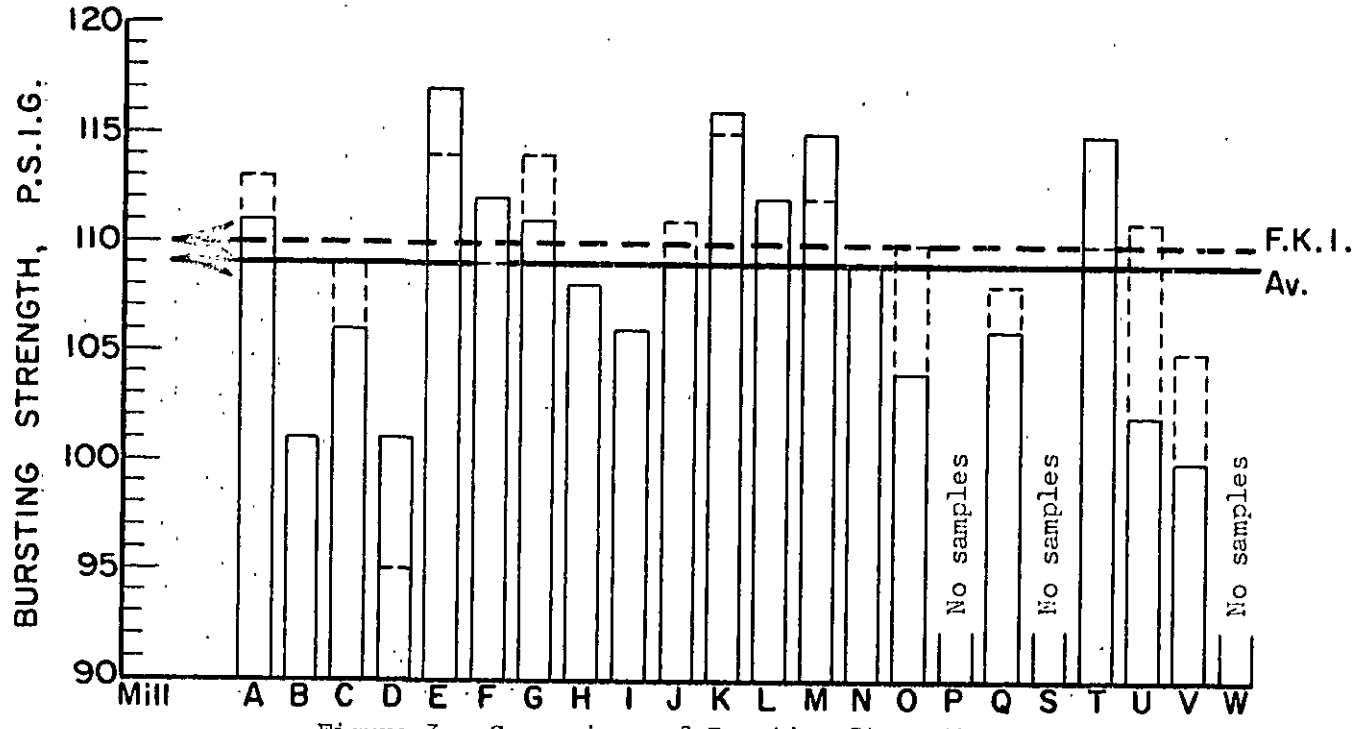

Figure 3. Comparison of Bursting Strength Results

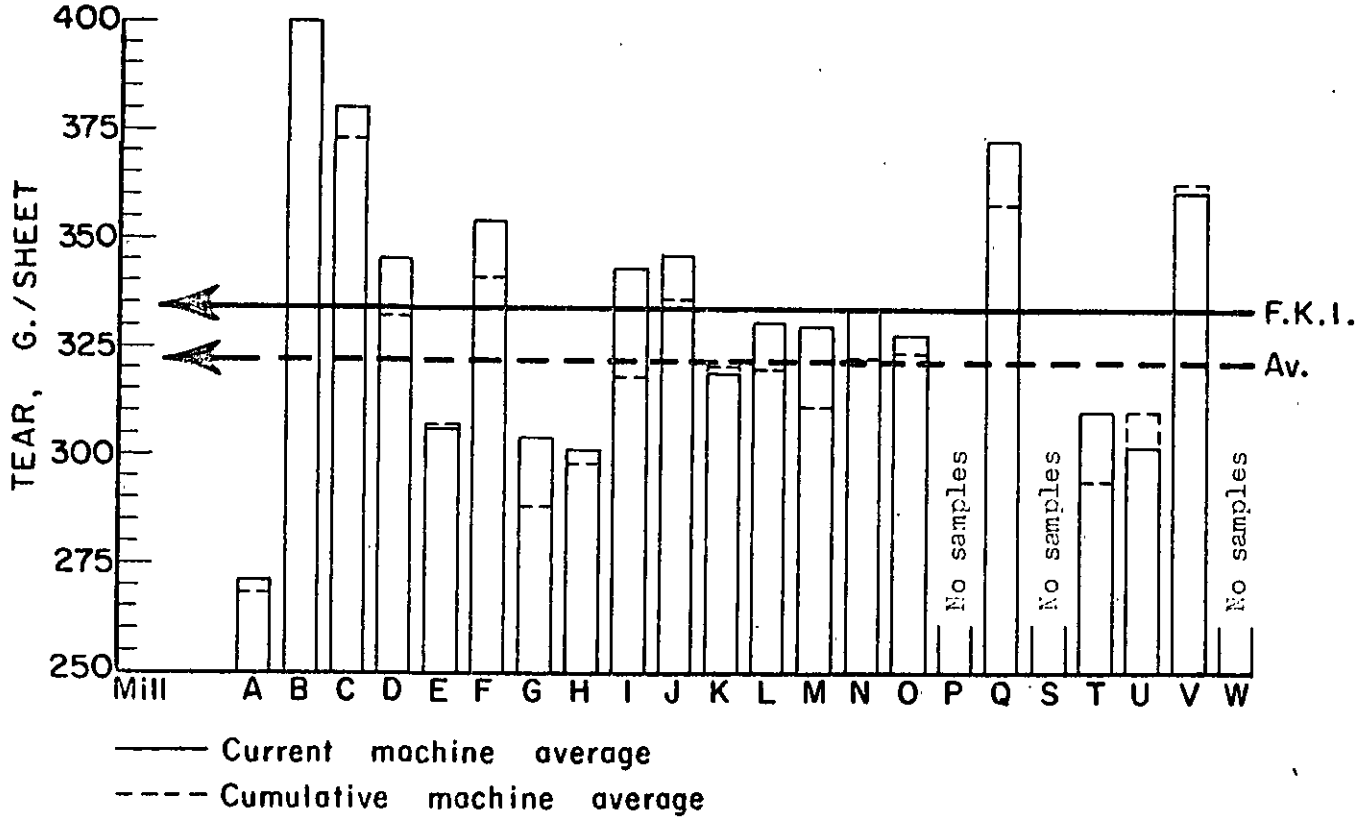

Figure 4. Comparison of Machine-Direction Tear Results

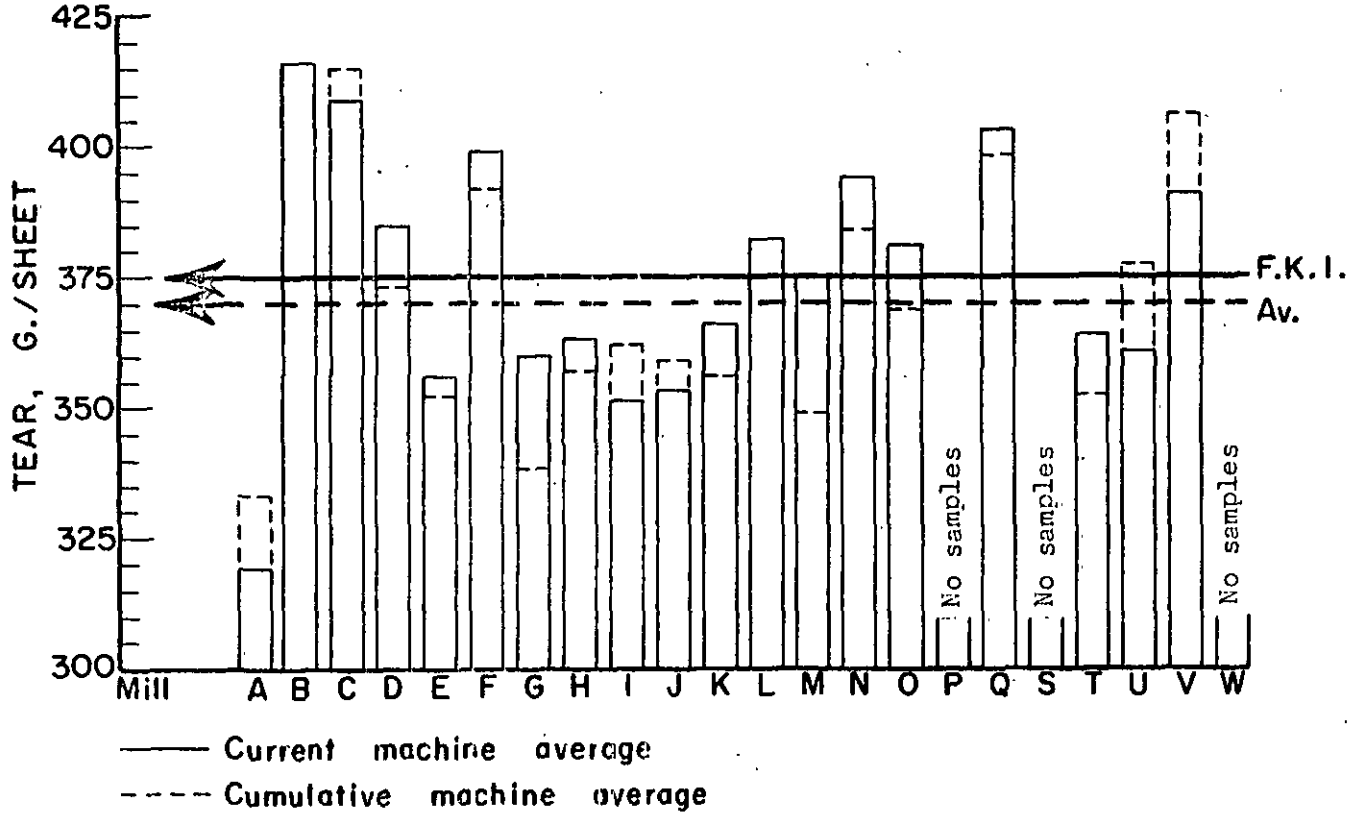

Figure 5. Comparison of Cross-Machine Direction Tear Results

Test	Current Mill Averages Max.	Min.	F.K.I. Averages Current	Cumulative
Basis weight, lb.	43.6	41.9	42.7	42.9
Caliper, points	13.4	11.9	12.7	12.7
Bursting strength, p.s.i. gage	117	100	109	110
Machine direction Elmendorf tear, g./sheet	400	271	334	322
Cross-machine direction Elmendorf tear, g./sheet	416	319	375	370

The test results obtained at the Institute and at the mill during October and November are given alphabetically in Tables IV to XXV for each mill. Included in each of these tables are the maximum, minimum and average test data obtained at the Institute on each sample lot of linerboard. The data obtained at the Institute include also for each test the calculation of (1) a current mill average that represents the mean of the averages obtained on the individual sample lots of linerboard evaluated during the current period, (2) a cumulative mill average that represents the mean of the current mill averages for the previous twelve months excluding the current period, (3) a mill factor expressed in per cent that represents the ratio of the current mill average to the cumulative mill average, and (4) a mill index expressed in per cent that represents the ratio of the current mill average to the cumulative F.K.I. average. The term "mean" in the preceding discussion is synonymous with the simple arithmetic average. As mentioned above, the results presented in Tables IV to XXV also include data obtained at the mills. The mill data include for each test (1) the average result obtained on each sample lot of linerboard and (2) a current mill average (calculated at the Institute) that represents the mean of the averages obtained on the individual sample lots of linerboard. In addition to the presentations of Institute and mill data described

TABLE IV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL A

October and November, 1962

Date Made	Finish	Mch. No	Basis Weight, lb					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max	Min	Av	Av	Diff	Max	Min	Av	Av.	Diff.	Max	Min	Av	Av	Diff.	Max	Min	Av	Av.	Diff	Max	Min.	Av.	Av.	Diff.
9-24-62	WFLS	1	42.2	41.4	41.9	42.2	+0.3	14.2	13.0	13.6	12.8	-0.8	130	90	109	107	-2	272	224	249[a]	286	+37	360	280	311[a]	334	+23
9-25-62	WFLS	1	42.0	40.6	41.7	41.8	+0.1	14.2	13.0	13.6	12.9	-0.7	128	88	106	107	+1	304	208	257	285	+28	344	272	297[a]	352	+55
9-25-62	WFLS	1	42.6	41.4	41.9	42.3	+0.4	14.2	12.5	13.1	12.5	-0.6	132	93	116	114	-2	336	248	275[a]	290	+15	344	296	311[a]	356	+45
10-15-62	WFLS	1	43.0	41.2	42.0	42.6	+0.6	14.1	12.7	13.4	12.7	-0.7	127	87	110	107	-3	336	248	274[a]	290	+16	368	272	329[a]	372	+43
10-30-62	WFLS	1	43.4	40.6	41.9	41.9	0.0	13.8	12.3	13.2	12.5	-0.7	124	70	106	105	-1	352	224	279[a]	283	+4	360	288	326[a]	359	+33
10-18-62	WFLS	1	42.0	40.6	41.4	41.3	-0.1	13.5	12.7	13.0	12.6	-0.4	146	85	115	111	-4	432	240	278	282	+4	368	288	315[a]	364	+49
11-17-62	WFLS	1	44.0	42.4	43.4	43.2	-0.2	13.9	12.9	13.3	12.8	-0.5	141	93	114	113	-1	376	232	283	308	+25	376	320	339[a]	386	+47
Current Mill Average					42.0	42.2	+0.2			13.3	12.7	-0.6			111	109	-2			271	289	+18			319	360	+41
Cumulative Mill Average					42.2					13.4					113					268					333		
Mill Factor, %					99.5					99.3					98.2					101.1					95.8		
Mill Index, %					97.9					104.7					100.9					84.2					86.2		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit

Note All "current mill average" data are calculated from the totals of the individual readings.

TABLE V

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL B

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb. Institute Max.	Institute Min.	Institute Av.	Mill Av.	Diff.	Caliper, points Institute Max.	Institute Min.	Institute Av.	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Institute Min.	Institute Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Institute Min.	Institute Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max.	Institute Min.	Institute Av.	Mill Av.	Diff.
10- 4-62	----	1	44.4	42.4	43.4	43.5	-0.1	13.3	12.3	13.0	12.7	-0.3	120	74	97	104	+7	448	304	373[a]	342	-31	488	352	399[a]	375	-24
10-11-62	----	1	45.0	43.6	44.1	44.2	-0.1	13.9	12.7	13.2	12.8	-0.4	119	76	103	109	+6	512	376	432[a]	338	-94	480	376	423[a]	385	-38
10-23-62	----	1	43.6	40.4	42.2	42.4	-0.2	12.9	11.5	12.4	12.1	-0.3	124	78	101	106	+5	416	336	380[a]	320	-60	460	368	407[a]	357	-50
11- 6-62	----	1	44.4	42.2	43.6	43.7	-0.1	13.3	11.7	12.7	12.4	-0.3	128	73	101	103	-2	464	344	407[a]	325	-82	432	336	395[a]	355	-40
11-14-62	----	1	44.6	42.4	43.8	44.1	-0.3	13.7	12.2	12.9	12.6	-0.3	129	83	104	97	-7	464	328	409[a]	346	-63	512	384	457[a]	398	-59
Current Mill Average					43.4	43.6	-0.2			12.8	12.5	-0.3			101	104	+3			400	334	-66			416	374	-42
Cumulative Mill Average:					----					----					---					---					---		
Mill Factor, %					----					----					---					---					---		
Mill Index, %					101.2					100.8					91.8					124.2					112.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE VI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL C

October and November, 1962

Date Made	Finish	Mch No	Basis Weight, lb					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max	Min	Av	Av	Diff	Max.	Min	Av.	Av	Diff.	Max	Min.	Av	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av	Av	Diff.
10- 5-62	W B	-	43 1	41 7	42 7	43.0	+0 3	13 0	12 0	12 5	12 1	-0 4	123	88	106	106	0	432	280	359[a]	428	+69	456	384	419[a]	410	- 9
10-11-62	W B.	-	44.5	41.4	42.9	43 6	+0 7	13 6	12 3	13 0	12 5	-0 5	134	84	108	109	+1	480	344	412[a]	419	+ 7	472	360	421[a]	429	+ 8
10-11-62	w B.	-	42 8	41 4	42.2	42 6	+0 4	13.2	12 6	12 9	12 5	-0.4	125	90	111	108	-3	464	328	407[a]	420	+13	448	360	403[a]	448	+45
10-26-62	W B	-	43 8	41 8	42.6	42 7	+0.1	13 0	12 0	12.5	12.2	-0.3	124	84	102	107	+5	416	304	367[a]	461	+94	464	368	409[a]	427	+18
11- 3-62	W.B	-	43.8	42 0	42.9	43 1	+0.2	13.0	12 2	12 6	12.3	-0.3	123	89	102	107	+5	440	328	363[a]	384	+21	448	336	389[a]	429	+40
11- 9-62	W B.	-	43 8	42 0	42 6	43 3	+0 7	13 3	12 6	13 0	12.5	-0.5	140	84	109	110	+1	448	328	375[a]	417	+42	448	384	413[a]	453	+40
Current Mill Average					42 7	43 0	+0.3			12 8	12 3	-0.5			106	108	+2			380	422	+42			409	433	+24
Cumulative Mill Average					43 6					12 8					109					373					415		
Mill Factor, %					97 9					100 0					97.2					101.9					98.6		
Mill Index, %					99.5					100 8					96 4					118 0					110 5		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

TABLE VII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL D

October and November, 1962

Date Made	Finish	Mch No	Basis Weight, lb					Caliper, points					Bursting Strength, p s i gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g /sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max	Min.	Av	Av.	Diff	Max.	Min.	Av	Av	Diff	Max	Min	Av.	Av	Diff.	Max.	Min.	Av.	Av	Diff	Max	Min.	Av.	Av.	Diff.
9-25-62	S.F	7	42 0	40 0	41 0	41 6	+0 6	12 7	11.2	12 0	12 2	+0.2	126	84	101	99	-2	416	264	320[a]	327	+ 7	408	344	376[a]	374	- 2
10- 3-62	S F.	7	44.2	42 0	42 7	43 3	+0.6	13 2	12 1	12 7	12 8	+0 1	124	72	97	94	-3	456	328	372	350	-22	456	352	389[a]	403	+14
11- 7-62	S.F.	7	43 6	41 2	42 0	42 6	+0 6	13 0	12 1	12 6	12 2	-0.4	131	69	104	109	+5	408	280	343[a]	346	+ 3	432	368	390[a]	401	+11
Current Mill Average					41 9	42 5	-0 6			12 4	12 4	0 0			101	101	0			345	341	- 4			385	393	+ 8
Cumulative Mill Average					42 2					12 7					95					332					373		
Mill Factor, %					99 3					97.6					106.3					103 9					103.2		
Mill Index, %					97 7					97 6					91 8					107 1					104.1		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit

Note All "current mill average" data are calculated from the totals of the individual readings

TABLE VIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL E

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
10- 1-62	WFlS	2	43.8	40.8	42.8	43.7	+0.9	14.3	13.0	13.5	13.4	-0.1	137	98	121	122	+1	368	280	305[a]	338	+33	424	336	376[a]	425	+49
10- 7-62	WFlS	2	42.0	40.6	41.5	42.7	+1.2	12.8	12.0	12.4	12.7	+0.3	148	93	118	115	-3	336	248	297[a]	308	+11	448	344	374[a]	398	+24
10-11-62	WFlS	2	42.4	41.2	42.0	42.5	+0.5	13.2	12.0	12.8	12.5	-0.3	142	82	119	124	+5	400	304	339[a]	336	- 3	352	280	319[a]	352	+33
10-15-62	WFlS	2	42.0	41.2	41.6	42.7	+1.1	13.8	12.6	13.3	13.0	-0.3	139	91	116	115	-1	416	248	309[a]	327	+18	376	304	347[a]	400	+53
10-29-62	WFlS	2	42.0	40.6	41.6	42.2	+0.6	13.8	13.0	13.3	12.8	-0.5	140	87	114	112	-2	336	240	282[a]	269	-13	376	320	341[a]	356	+15
11- 2-62	WFlS	2	43.2	41.2	42.2	43.0	+0.8	13.0	12.2	12.6	12.6	0.0	142	87	116	116	0	384	272	312[a]	332	+20	384	320	355[a]	422	+67
11- 9-62	WFlS	2	43.6	42.0	43.0	43.5	+0.5	14.2	13.0	13.7	13.3	-0.4	145	88	120	119	-1	360	304	331[a]	329	- 2	448	352	393[a]	424	+31
11-12-62	WFlS	2	43.6	40.6	42.1	43.0	+0.9	14.4	12.8	13.5	13.0	-0.5	133	91	113	113	0	320	224	277[a]	256	-21	384	320	346[a]	352	+ 6
Current Mill Average:					42.1	42.9	+0.8			13.1	12.9	-0.2			117	117	0			306	312	+ 6			356	391	+35
Cumulative Mill Average:					42.5					13.1					114					307					352		
Mill Factor, %					99.1					100.0					102.6					99.7					101.1		
Mill Index, %					98.1					103.1					106.4					95.0					96.2		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE IX

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL F

October and November, 1962

Date Made	Finish	Mch No	Basis Weight, lb					Caliper, points					Bursting Strength, p s i gage					Elmendorf Tear, g /sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff	Max	Min.	Av	Av	Diff	Max.	Min.	Av	Av	Diff.	Max.	Min.	Av	Av	Diff.
9-0-62	M F.	3	44 2	43.4	43.8	44 4	+0 6	13 1	12 1	12 6	12 4	-0.2	122	86	106	108	+2	456	320	369[a]	389	+20	440	336	389[a]	411	+22
9-10-62	M.F	3	44 C	42.2	43.5	44 0	+0 5	13 2	12 0	12 6	12 3	-0.3	118	90	104	108	+4	432	336	375	391	+16	440	320	393[a]	425	+32
9-20-62	M F	3	43 6	42 0	42.5	43 6	+1.1	12.5	11 9	12 1	11 9	-0 2	137	100	118	119	+1	424	264	337[a]	371	+34	468	376	411[a]	430	+19
9-21-62	M F	3	44 2	42 2	43 4	44.7	+1 3	13 2	12 0	12 6	12 3	-0 3	124	90	108	108	0	440	328	375	419	+44	408	368	387[a]	428	+41
10-12-62	M F	3	43 8	42 4	43 1	44 0	+0 9	12 4	11 8	12 1	11.9	-0 2	130	111	119	117	-2	400	288	334	327	- 7	448	368	405[a]	387	-18
10-13-62	M F	3	44 0	42 4	43 2	43 7	+0 5	12 5	11 8	12 1	12 0	-0.1	135	104	118	117	-1	416	296	335	324	-11	460	360	411[a]	393	-18
Current Mill Average					43.3	44 1	+0 8			12 3	12 1	-0.2			112	113	+1			354	370	+16			399	412	+13
Cumulative Mill Average					43 5					12 8					109					341					392		
Mill Factor, %					99 5					96 1					102 8					103.8					101.8		
Mill Index, %					100 9					96 9					101.8					109.9					107.8		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

TABLE X

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL G

October and November, 1962

Date Made	Finish	Mch No	Basis Weight, lb					Caliper, points					Bursting Strength, psi range					Elmendorf Tear, g/sheet In Machine					Elmendorf Tear, g/sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff
9-19-62	----	1	42 6	42 0	42 3	42 9	+0	14 1	13 4	13 8	13 6	-0 2	118	73	90	110	+12	320	240	287	238	-59	398	306	347[a]	335	-12
9-28-62	F	1	44 0	43 6	43 9	42 9	-1 0	13 9	13 3	13 7	13 3	-0 4	140	87	118	127	+ 1	376	280	329[a]	284	-45	392	304	357[a]	369	+12
10- 4-62	----	1	43 8	42 2	42 9	42 7	-0 2	14 0	13 0	13.4	13 7	+0 3	141	87	114	115	+ 1	360	264	312[a]	296	-17	400	352	371[a]	353	-18
10-13-62	F	1	43 6	42 2	42 6	42 4	-0 2	13 3	12 6	13 0	13 1	+0 1	131	81	109	114	+ 5	328	272	300[a]	270	-30	38	328	353[a]	355	+ 2
10-18-62	F	1	43 0	42 2	42 5	42 2	-0 3	13 6	12 8	13 2	13 1	-0 1	140	86	116	114	- 2	344	272	308[a]	282	-26	400	332	371[a]	355	-16
10-25-62	F	1	43.4	42 0	42 7	42 7	0 0	13 2	12 3	12 8	12 6	-0 2	136	84	114	118	+ 4	344	288	316[a]	289	-27	360	320	351[a]	324	-27
11- 7-62	F,	1	42 2	41 8	42 0	43 0	+1 0	13 0	12 8	12 9	12 7	-0 2	133	90	111	111	0	352	256	303[a]	252	-51	394	332	368[a]	339	-29
Current Mill Average					42 7	42 7	0 0			13 3	13 1	-0 2				111	114	+ 3			304	263	-41			360	347	-13
Cumulative Mill Average					42 2					12.5						114					288					338		
Mill Factor, %					101 2					106.4						97 4					105 6					106 5		
Mill Index, %					99 5					104 7						100.9					94 4					97 3		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit

Note All "current mill average" data are calculated from the totals of the individual readings

TABLE XI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL H

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb. Institute Max.	Min.	Av.	Mill Av.	Diff.	Caliper, points Institute Max.	Min.	Av.	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max.	Min.	Av.	Mill Av.	Diff.
9-16-62	W.F.	1	44.4	42.2	43.2	43.3	+0.1	13.2	12.1	12.7	12.4	-0.3	130	90	110	108	-2	376	256	303[a]	288	-15	400	336	356[a]	366	+10
9-26-62	W.F.	1	42.6	42.0	42.2	43.1	+0.9	13.0	12.0	12.5	12.2	-0.3	130	79	109	107	-2	336	248	287	258	-29	384	320	340[a]	341	+ 1
9-25-62	W.F.	1	44.0	42.0	42.8	43.2	-0.4	13.0	12.0	12.5	12.1	-0.4	132	82	106	108	+2	384	256	312[a]	278	-34	456	320	365[a]	355	-10
9-28-62	W.F.	1	43.6	41.6	42.2	43.2	+1.0	13.2	11.6	12.4	12.1	-0.3	129	85	110	111	+1	352	240	289	263	-26	376	312	351[a]	345	- 6
10- 5-62	W.F.	1	43.8	40.4	42.2	43.3	+1.1	13.2	11.9	12.5	12.4	-0.1	140	84	110	111	+1	368	256	298[a]	270	-28	400	328	357[a]	361	+ 4
10- 7-62	W.F.	1	43.6	41.6	42.6	43.7	+1.1	13.4	12.1	12.8	12.9	+0.1	137	87	107	109	+2	352	256	307	281	-26	416	336	384[a]	376	- 8
10- 9-62	W.F.	1	43.4	41.2	41.9	42.6	+0.7	12.6	11.5	12.1	12.2	+0.1	130	85	111	109	-2	352	272	307[a]	268	-39	408	320	352[a]	346	- 6
10-12-62	W.F.	1	42.0	41.0	41.6	42.0	+0.4	12.8	12.0	12.3	12.0	-0.3	132	89	109	108	-1	376	224	281	281	0	392	312	351[a]	360	+ 9
10-25-62	W.F.	1	42.4	41.2	41.9	42.4	+0.5	12.4	11.0	11.8	12.0	+0.2	118	63	100	107	-7	344	240	298[a]	267	-31	384	320	351[a]	361	+10
10-27-62	W.F.	1	42.6	42.0	42.3	42.9	+0.6	12.3	11.6	12.0	12.0	0.0	133	90	110	110	0	344	264	309[a]	264	-45	392	344	364[a]	359	- 5
10-28-62	W.F.	1	42.4	41.2	42.1	42.9	+0.8	13.1	12.1	12.6	12.6	0.0	122	78	102	109	+7	368	288	321	289	-32	440	344	393[a]	388	- 5
10-30-62	W.F.	1	43.4	40.2	42.0	42.4	-0.4	13.0	12.0	12.5	12.5	0.0	144	82	110	112	+2	352	216	303[a]	267	-36	432	336	387[a]	366	-21
Current Mill Average:					42.3	42.9	+0.6			12.4	12.3	-0.1			108	109	+1			301	273	-28			363	360	- 3
Cumulative Mill Average:					42.9					12.5					108					298					357		
Mill Factor, %					98.6					99.2					100.0					101.0					101.7		
Mill Index, %					98.6					97.6					98.2					93.5					98.1		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL I

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb. Institute Max.	Min.	Av.	Mill Av.	Diff.	Caliper, points Institute Max.	Min.	Av.	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max.	Min.	Av.	Mill Av.	Diff.
9-23-62	----	1	44.0	41.8	43.3	42.7	-0.6	14.0	12.8	13.3	12.6	-0.7	130	87	108	104	-4	352	296	334[a]	330	- 4	416	320	371	393	+22
10-13-62	----	1	44.0	42.0	43.0	43.1	+0.1	13.9	11.6	12.7	12.4	-0.3	128	88	104	103	-1	400	312	351[a]	340	-11	352	304	332[a]	355	+23
Current Mill Average:					43.2	42.9	-0.3			13.0	12.5	-0.5			106	104	-2			343	335	- 8			351	374	+23
Cumulative Mill Average:					43.2					13.3					106					318					362		
Mill Factor, %					100.0					97.7					100.0					107.9					97..		
Mill Index, %					100.7					102.4					96.4					106.5					94..		

TABLE XIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL J

9-21-62	W.F.	-	44.0	41.8	42.6	43.1	+0.5	13.6	11.5	12.8	12.6	-0.2	133	88	110	105	-5	368	320	339[a]	315	-24	392	320	365[a]	356	- 9
9-21-62	W.F.	-	44.2	41.4	42.6	43.0	+0.4	13.8	12.0	12.8	12.7	-0.1	149	90	109	104	-5	360	304	329[a]	315	-14	392	312	352[a]	371	+19
10-17-62	W.F.	-	43.6	42.0	42.7	43.3	+0.6	13.2	12.0	12.4	11.8	-0.6	123	87	107	108	+1	464	336	375[a]	345	-30	400	320	351[a]	363	+12
10-17-62	W.F.	-	42.6	41.2	42.1	42.8	+0.7	12.8	11.0	12.1	12.2	+0.1	141	94	110	107	-3	408	296	343[a]	320	-23	376	304	343[a]	345	+ 2
Current Mill Average:					42.5	43.0	+0.5			12.5	12.3	-0.2			109	106	-3			346	324	-22			353	359	+ 6
Cumulative Mill Average:					42.5					12.2					111					336					359		
Mill Factor, %					100.0					102.5					98.2					103.0					98.3		
Mill Index, %					99.1					98.4					99.1					107.5					95.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XIV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL K

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
10- 4-62	W.F.	-	44.2	43.6	43.9	43.6	-0.3	13.0	12.4	12.8	12.2	-0.6	141	99	122	117	-5	384	288	331[a]	311	-20	400	352	377[a]	364	-13
10- 5-62	W.F.	-	44.2	43.4	43.8	43.9	+0.1	13.2	12.2	12.9	12.3	-0.6	124	97	112	106	-6	336	264	304[a]	305	+ 1	368	312	347[a]	332	-15
10-12-62	W.F.	-	43.6	41.8	42.4	42.6	+0.2	13.0	12.3	12.7	12.1	-0.6	133	101	116	108	-8	400	280	347[a]	321	-26	440	336	375[a]	340	-35
10-19-62	W.F.	-	44.0	42.2	43.1	43.1	0.0	13.2	12.0	12.7	12.1	-0.6	138	94	121	116	-5	352	280	311[a]	296	-15	384	336	359[a]	357	- 2
11- 1-62	W.F.	-	44.2	43.0	43.8	44.0	+0.2	13.4	12.4	13.0	12.9	-0.1	131	91	109	104	-5	352	264	318[a]	311	- 7	432	336	375[a]	348	-27
11- 2-62	W.F.	-	44.0	42.4	43.6	43.4	-0.2	13.0	12.2	12.7	12.1	-0.6	132	103	116	112	-4	360	288	329[a]	291	-38	400	336	371[a]	343	-28
11- 9-62	W.F.	-	44.0	43.4	43.6	43.0	-0.6	13.0	12.2	12.7	12.2	-0.5	138	104	121	113	-8	328	288	317	303	-14	384	344	361[a]	349	-12
11-16-62	W.F.	-	43.6	42.2	42.7	43.0	+0.3	13.0	12.1	12.5	12.1	-0.4	127	88	112	112	0	320	272	291[a]	296	+ 5	400	312	365[a]	344	-21
Current Mill Average:					43.4	43.4	0.0			12.7	12.2	-0.5			116	111	-5			319	304	-15			366	347	-19
Cumulative Mill Average:					42.9					12.6					115					321					356		
Mill Factor, %					101.2					100.8					100.9					99.4					102.8		
Mill Index, %					101.2					100.0					105.5					99.1					98.9		

[a]This average includes the readings for one or more specimens which tore beyond the 7/8-inch limit.

Note All "current mill averages" data are calculated from the totals of the individual readings.

TABLE XV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL L

October and November, 1962

Date Made	Finish	Mach No	Basis Weight, lb					Caliper, points					Bursting Strength, p s i average					Elmendorf Tear, g/sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff	Max	Min	Av	Av	Diff	Max	Min	Av	Av.	Diff
9-18-62	F	2	45 6	43 4	44 4	44 7	+0 3	14 0	13 2	13 7	13 6	-0 1	141	97	113	113	0	376	288	319[a]	358	+39	480	368	415[a]	437	+22
9-26-62	F	1	45 0	42 6	43 9	44 0	+0 1	13 7	13 0	13 2	13 1	-0 1	132	87	116	117	+1	392	288	348[a]	352	- 4	424	344	389[a]	401	+12
9-26-62	F	1	45 4	42 8	44 0	44 0	0 0	14 0	12 9	13 2	13 2	0 0	139	85	112	117	+5	400	280	351[a]	350	- 1	424	336	377[a]	403	+26
10- 9-62	F	2	42 4	40 6	41 7	42 4	+0 7	12 7	12 0	12 2	12.5	+0 3	131	91	106	113	+7	376	272	327[a]	320	- 7	440	320	359[a]	372	+13
10-20-62	F	2	43 6	42 0	42 5	42 7	+0 2	13 0	12 1	12 5	12 6	+0 1	122	94	109	112	+3	368	272	317	320	- 7	416	352	373[a]	382	+ 9
10-23-62	F	2	43 2	41 6	42 2	42 9	-0 7	13 2	12 0	12 5	12 6	+0 1	134	97	113	113	0	360	264	307	311	- 4	440	360	398[a]	393	- 5
10-25-62	F	1	44 2	42 8	43 6	43 6	0 0	13 2	12 2	12 8	12 7	-0 1	140	91	117	116	-1	376	288	345	351	+ 6	400	344	370[a]	382	+12
10-27-62	F	1	43 8	42 2	43 0	43 6	+0 6	13 4	12 2	12 8	12 6	-0 2	137	90	112	115	+3	408	288	333[a]	339	+ 6	408	352	378[a]	379	+ 1
Current Mill Average					43 2	43 5	+0 3			12 9	12 8	-0 1			112	115	+3			331	336	- 5			382	394	+12
Cumulative Mill Average					43 3					12.5					112					320					382		
Mill Factor, %					99 8					103 2					100 0					103 4					100 0		
Mill Index, %					100 7					101 6					101 8					102 8					103 2		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit

Note All "current mill average" data are calculated from the totals of the individual readings

TABLE XVI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL M

October and November, 1962

Date Made	Finish	Mch. No	Basis Weight, lb. Institute Max	Min.	Av	Mill Av.	Diff.	Caliper, points Institute Max	Min	Av	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max	Min.	Av.	Mill Av.	Diff.
10- 9-62	W.F.	1	43.6	42 0	42 6	43.4	+0.8	12 6	11.5	12.1	11 6	-0.5	132	94	113	111	-2	368	272	317[a]	311	- 6	392	336	371[a]	343	-28
11- 2-62	W F	2	43.8	42.0	42 8	43 4	+0 6	12 9	11.9	12 3	12.0	-0.3	135	97	113	117	+4	368	288	333[a]	353	+20	400	352	385[a]	396	+11
11- 3-62	W F.	2	43 6	42 0	42 6	42 1	-0.5	12.7	11.4	12 0	11 9	-0.1	137	103	118	112	-6	400	288	339[a]	338	- 1	408	320	369[a]	379	+10
Current Mill Average					42.7	42.9	+0 2			12 1	11 8	-0.3			115	113	-2			330	334	+ 4			375	373	- 2
Cumulative Mill Average					43.1					12.1					112					311					349		
Mill Factor, %					99.1					100.0					102.7					106.1					107.4		
Mill Index, %					99.5					95 3					104.5					102.5					101.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit

Note All "current mill average" data are calculated from the totals of the individual readings.

TABLE XVII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL H

October and November, 1962

Date Made	Finish	Mach. No	Basis Weight, lb					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g/sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av	Diff.	Max.	Min.	Av.	Av	Diff.	Max.	Min.	Av.	Av	Diff	Max	Min	Av.	Av	Diff	Max.	Min.	Av.	Av.	Diff.
9- 1-62	WFlS	2	43 6	41 2	42 4	43 1	+0.7	14.1	12.8	13 5	12 8	-0 7	142	78	107	110	+3	368	256	326[a]	331	+ 5	456	352	387[a]	450	+63
9-16-62	WFlS	2	43.6	41 4	42 2	42 4	+0 2	14 1	13 1	13 7	12 5	-1.2	132	86	110	105	-5	368	272	324[a]	371	+47	448	336	386[a]	404	+18
10-11-62	WFlS	2	44.0	42.0	43 0	42 9	-0 1	14 2	13 1	13.7	13 1	-0 6	126	86	109	108	-1	440	304	351	378	+27	464	352	400[a]	441	+41
10-19-62	WFlS	2	43.2	42 0	42 4	43 0	+0 6	13 9	13 0	13.4	13.0	-0.4	135	83	111	109	-2	352	272	319	363	+44	432	352	395[a]	443	+48
10-27-62	WFlS	2	43 0	42 0	42 5	42.7	+0.2	13 7	12 4	13.0	12 8	-0.2	129	84	126	126	0	432	304	363[a]	385	-22	464	368	410[a]	427	+17
11- 3-62	WFlS	2	43.0	42 0	42 3	42 7	+0 4	13 2	12 8	13 0	12.6	-0 4	141	89	111	110	-1	368	256	320[a]	354	+34	432	368	387[a]	433	+46
Current Mill Average					42.5	42 8	+0.3			13 4	12 8	-0 6			109	108	-1			334	364	-30			394	433	+39
Cumulative Mill Average					42 8					13.3					109					323					384		
Mill Factor, %					99.3					100 8					100 0					103 4					102.6		
Mill Index, %					99 1					105.5					99.1					103.7					106.5		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings

TABLE XVIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL O

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb. Institute Max.	Min.	Av.	Mill Av.	Diff.	Caliper, points Institute Max.	Min.	Av.	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max.	Min.	Av.	Mill Av.	Diff.
8-29-62	WFlS	1	42.2	40.0	41.3	41.9	+0.6	13.0	11.8	12.3	11.9	-0.4	125	92	105	113	+ 8	400	280	317[a]	336	+19	432	352	378[a]	384	+ 6
9- 1-62	WFlS	1	42.2	40.0	41.7	42.0	+0.3	13.2	11.3	12.4	11.9	-0.5	122	87	104	114	+10	400	272	316[a]	333	+17	416	336	373[a]	379	+ 6
10- 5-62	WFlS	1	42.2	40.2	41.6	42.3	+0.7	13.0	11.7	12.4	12.0	-0.4	127	82	105	118	+13	368	272	313	340	+27	456	336	389[a]	398	+ 9
10-12-62	WFlS	1	43.8	42.0	42.6	42.6	0.0	13.8	12.7	13.1	12.7	-0.4	121	89	105	109	+ 4	384	272	339	348	+ 9	448	368	395[a]	393	- 2
10-23-62	WFlS	1	43.8	42.0	43.0	43.4	+0.4	13.8	12.9	13.3	12.8	-0.5	120	90	104	111	+ 7	368	288	339[a]	379	+40	408	344	371[a]	408	+37
11- 2-62	WFlS	1	42.0	40.4	41.5	42.0	+0.5	14.0	12.2	13.0	12.5	-0.5	112	88	100	108	+ 8	384	272	331[a]	332	+ 1	448	312	358[a]	372	+14
11- 4-62	WFlS	1	43.0	40.8	42.0	42.8	+0.8	13.8	12.0	12.8	12.6	-0.2	117	91	104	104	0	368	320	340[a]	336	- 4	440	376	401[a]	390	-11
Current Mill Average:					42.0	42.4	+0.4			12.8	12.3	-0.5			104	111	+ 7			328	343	+15			381	389	+ 8
Cumulative Mill Average:					42.5					12.9					110					324					369		
Mill Factor, %					98.8					99.2					94.5					101.2					103.3		
Mill Index, %					97.9					100.8					94.5					101.9					103.0		

TABLE XIX

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL P

No samples submitted.

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XX

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL Q

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
9-26-62	W.B.	-	44.0	42.4	43.2	42.8	-0.4	12.9	10.8	11.7	11.4	-0.3	127	82	104	109	+5	400	320	359[a]	336	-23	448	384	403[a]	383	-20
10- 2-62	W.B.	-	44.2	41.6	42.6	42.5	-0.1	12.0	11.1	11.6	11.4	-0.2	125	90	109	115	+6	448	336	379	335	-44	432	368	400[a]	417	-17
10- 5-62	----	-	44.0	40.8	42.6	42.6	0.0	12.4	11.2	11.8	11.5	-0.3	137	87	108	111	+3	432	304	375[a]	351	-24	464	352	411[a]	403	- 8
10-30-62	W.B.	-	43.8	41.8	42.6	42.5	-0.1	13.0	11.8	12.4	12.0	-0.4	127	89	105	107	-2	464	320	381[a]	357	-24	480	368	399[a]	388	-11
Current Mill Average:					42.7	42.6	-0.1			11.9	11.6	-0.3			106	111	+5			373	345	-28			403	398	- 5
Cumulative Mill Average:					42.9					11.9					108					358					398		
Mill Factor, %					99.5					100.0					98.1					104.2					101.3		
Mill Index, %					99.5					93.7					96.4					115.8					108.9		

TABLE XXI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL S

No samples submitted.

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL T

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
9- 8-62	W.F.	-	44.6	42.8	43.6	43.2	-0.6	13.2	11.8	12.3	12.0	-0.3	130	93	113	118	+5	352	288	316[a]	281	-37	416	336	362[a]	325	-37
9-10-62	W.F.	1	44.4	42.8	43.7	43.4	-0.3	13.0	12.0	12.3	11.9	-0.4	144	95	114	116	+2	352	272	301[a]	282	-19	400	336	360[a]	359	- 1
9-20-62	W.F.	1	44.4	43.6	44.0	43.0	-1.0	13.2	12.0	12.5	11.7	-0.8	129	92	112	115	+3	368	232	311	290	-21	392	328	357[a]	367	+10
9-29-62	W.F.	1	44.2	42.4	43.6	43.2	-0.4	13.0	11.8	12.3	11.8	-0.5	137	97	118	116	-2	400	288	319[a]	313	- 6	416	328	375[a]	375	0
10-10-62	W.F.	1	44.4	42.4	43.2	43.0	-0.2	12.9	11.8	12.2	11.8	-0.4	129	96	116	115	-1	384	264	317[a]	290	-27	400	344	375[a]	352	-23
10-19-62	W.F.	1	44.4	42.0	43.4	43.0	-0.4	13.0	11.6	12.2	11.8	-0.4	139	97	118	116	-2	344	256	295[a]	288	- 7	408	328	361[a]	333	-28
10-22-62	W.F.	1	44.2	42.0	43.4	43.3	-0.1	13.0	11.8	12.2	11.9	-0.3	133	97	116	115	-1	352	256	313[a]	289	-24	400	352	367[a]	361	- 6
11- 4-62	W.F.	1	44.4	42.4	43.4	43.1	-0.3	13.0	11.8	12.1	11.8	-0.3	131	102	115	113	-2	344	264	301[a]	297	- 4	384	328	358[a]	366	+ 8
Current Mill Average:					43.6	43.2	-0.4			12.3	11.8	-0.5			115	115	0			310	291	-19			364	355	- 9
Cumulative Mill Average					43.4					12.4					110					294					352		
Mill Factor, %					100.5					99.2					104.5					105.4					103.4		
Mill Index, %					101.6					96.9					104.5					96.3					98.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL U

October and November, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
9-20-62	WFlS	1	42.8	40.8	42.0	42.5	+0.5	13.2	11.9	12.6	12.8	+0.2	122	77	101	105	+4	336	232	288	293	+ 5	384	296	327[a]	379	+52
9-24-62	WFlS	1	44.0	42.0	43.0	43.7	+0.7	14.0	12.1	12.8	13.1	+0.3	114	87	102	108	+6	384	240	330[a]	341	+11	456	320	381[a]	388	+ 7
10- 2-62	WFlS	1	43.6	41.4	42.3	42.6	+0.3	13.6	12.0	12.7	12.7	0.0	113	66	99	105	+6	312	264	288	337	+49	392	304	338[a]	414	+76
10-18-62	WFlS	1	42.4	41.6	42.1	42.4	+0.3	13.0	11.9	12.4	12.4	0.0	125	89	104	103	-1	336	224	280[a]	317	+37	408	320	353[a]	383	+30
10-22-62	WFlS	1	44.0	42.2	43.0	43.2	+0.2	13.6	12.1	12.9	12.2	-0.7	128	81	104	107	+3	384	256	308[a]	295	-13	440	344	371[a]	367	- 4
10-31-62	WFlS	1	43.4	41.6	42.2	42.6	+0.4	13.8	12.0	12.9	12.5	-0.4	117	81	103	106	+3	376	264	319[a]	335	+16	472	344	381[a]	417	+36
11- 6-62	WFlS	1	43.6	40.4	42.2	42.4	+0.2	13.7	12.2	12.9	12.4	-0.5	119	80	99	106	+7	376	272	312	307	- 5	408	328	369[a]	393	+24
11-14-62	WFlS	1	43.6	41.6	42.4	42.6	+0.2	13.2	12.0	12.8	12.8	0.0	120	78	105	108	+3	352	248	288[a]	307	+19	440	328	365[a]	397	+32
Current Mill Average:					42.4	42.8	+0.4			12.8	12.6	-0.2			102	106	+4			302	317	+15			361	392	+31
Cumulative Mill Average:					42.8					12.6					111					310					377		
Mill Factor, %					99.1					101.6					91.9					97.4					95.8		
Mill Index, %					98.8					100.8					92.7					93.8					97.6		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXIV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL V

October and November, 1962

Date Made	Finish	Mch No	Basis Weight, lb					Caliper, points					Bursting Strength, p s i gage					Elmendorf Tear, g /sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max	Min	Av.	Av	Diff	Max	Min.	Av	Av.	Diff.	Max.	Min	Av	Av	Diff	Max	Min	Av	Av	Diff.	Max	Min	Av.	Av.	Diff
9-28-62	WFLS	2	43 6	42 0	42 6	42.3	-0 3	12 8	11 8	12 2	11.5	-0 7	111	79	95	105	+10	448	312	361	---	---	464	336	400[a]	---	---
10- 1-62	WFLS	2	44 4	42 4	43 3	43 1	-0 2	13 0	12 2	12 6	12 6	0 0	128	74	100	108	- 8	496	344	389[a]	---	---	424	360	400[a]	---	---
10- 7-62	WFLS	1	45.2	42 0	43 3	43 5	+0 2	13 6	12 4	13 0	12.8	-0.2	126	68	98	102	- 4	432	272	353[a]	---	---	464	344	392[a]	---	---
10- 9-62	WFLS	1	45 8	43 4	44 3	44 5	+0 2	13 5	12 6	13 0	12 7	-0 3	116	85	101	112	+11	448	272	347[a]	---	---	400	352	376[a]	---	---
11-12-62	WFLS	2	44 4	43 8	44 1	43 9	-0.2	13 0	12 2	12 8	12 6	-0.2	123	91	107	109	+ 2	384	320	358	---	---	432	344	389[a]	---	---
Current Mill Average					43 5	43 5	0 0			12 7	12.4	-0 3			100	107	- 7			361					391		
Cumulative Mill Average					43.5					12 5					105					363					406		
Mill Factor, %					100 0					101.6					95.2					99 4					96 3		
Mill Index, %					101 4					100.0					90 9					112 1					105 7		

TABLE XXV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL

No samples submitted

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit

Note All "current mill average" data are calculated from the totals of the individual readings

above, Tables IV through XXV also include under each test heading a column labeled "Diff." This column shows the differences between averages obtained at the Institute and those obtained at the mills. The data obtained at the Institute are used as the reference in calculating these differences.

The average test results obtained at the Institute and at the mills are summarized in Table XXVI for the current period. Shown in this table for each mill is the difference for each test between the current mill average based on Institute data and the current mill average based on mill data. In addition, for each test the maximum difference encountered in comparing Institute and mill averages for individual sample lots is shown. In Table XXVII, the differences for each test between the current mill averages based on Institute data and those based on mill data shown in Table XXVI have been converted to per cent (based on Institute data as a reference). In addition, for purposes of comparison, the percentage differences from the previous bimonthly report are shown.

A summary of the agreement obtained in the comparisons of Institute and mill test data for the current period is shown in Table XXVIII. This summary is based on the results given in Table XXVII. The tabulated data show the number of mills, and the percentage of all mills which this number represents, whose average test results for the current period fall within designated percentages from the average test results obtained at the Institute. It may be noted from this summary that agreement between the results obtained at the Institute and those obtained at the mills was generally very good.

Preconditioning and conditioning data pertinent to the test results obtained at the mills during the current period are given in Table XXIX.

TABLE XXVI

SUMMARY OF TEST RESULT COMPARISONS (Average Mill and Institute Results)

Mills[a]	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	S	T	U	V
No Samples Compared	7	5	6	3	8	6	7	12	2	4	8	8	3	6	7	0	4	0	8	8	5
Basis Weight																					
Institute	42.0	43.4	42.7	41.9	42.1	43.3	42.7	42.3	43.2	42.5	43.4	43.2	42.7	42.5	42.0	--	42.7	--	43.6	42.4	43.5
Mill	42.2	43.6	43.0	42.5	42.9	44.1	42.7	42.9	42.9	43.0	43.4	43.5	42.9	42.8	42.4	--	42.6	--	43.2	42.8	43.5
Av Diff[b]	+0.2	+0.2	+0.3	+0.6	+0.8	+0.8	0.0	+0.6	-0.3	+0.5	0.0	+0.3	+0.2	+0.3	+0.4	--	-0.1	--	-0.4	+0.4	0.0
Max Diff[c]	+0.6	+0.3	+0.7	+0.6	+1.2	+1.3	±1.0	+1.1	-0.6	+0.7	-0.6	+0.7	+0.8	+0.7	+0.8	--	-0.4	--	-1.0	+0.7	-0.3
Caliper																					
Institute	13.3	12.8	12.8	12.4	13.1	12.3	13.3	12.4	13.0	12.5	12.7	12.9	12.1	13.4	12.8	--	11.9	--	12.3	12.8	12.7
Mill	12.7	12.5	12.3	12.4	12.9	12.1	13.1	12.3	12.5	12.3	12.2	12.8	11.6	12.8	12.3	--	11.6	--	11.8	12.6	12.4
Av Diff[b]	-0.6	-0.3	-0.5	0.0	-0.2	-0.2	-0.2	-0.1	-0.5	-0.2	-0.5	-0.1	-0.3	-0.6	-0.5	--	-0.3	--	-0.5	-0.2	-0.3
Max Diff[c]	-0.8	-0.4	-0.5	-0.4	-0.5	-0.3	-0.7	-0.4	-0.7	-0.6	-0.6	+0.3	-0.5	-1.2	-0.5	--	-0.4	--	-0.8	-0.7	-0.7
Bursting Strength																					
Institute	111	101	106	101	117	112	111	108	103	109	116	112	115	109	104	--	106	--	115	102	100
Mill	109	104	108	101	117	113	114	109	104	106	111	115	113	108	111	--	111	--	115	106	107
Av. Diff[b]	-2	+3	+2	0	0	+1	+3	+1	-2	-3	-5	+3	-2	-1	+7	--	+5	--	0	+4	+7
Max Diff[c]	-4	±7	+5	+5	+5	+4	+12	+7	-4	-5	-8	+7	-6	-5	+13	--	+6	--	+5	+7	+11
Tearing Strength, in																					
Institute	271	400	380	345	306	354	304	301	343	346	319	351	330	334	328	--	373	--	310	302	361
Mill	289	334	422	341	312	370	263	273	335	324	304	356	334	364	343	--	345	--	291	317	--
Av Diff[b]	+18	-66	+42	-4	+6	+16	-41	-28	-8	-22	-15	+5	+4	+30	+15	--	-28	--	-19	+15	--
Max Diff[c]	+57	-94	+94	-22	-33	+44	-63	-45	-11	-30	-38	+39	+20	+47	+40	--	-44	--	-37	+49	--
Tearing Strength, cross																					
Institute	319	416	409	385	356	399	360	363	351	353	366	382	375	394	381	--	403	--	364	361	391
Mill	360	374	433	393	391	412	347	360	374	359	347	394	373	433	389	--	398	--	355	392	--
Av Diff[b]	+41	-42	+24	+8	+35	+13	-13	-3	+23	+6	-19	+12	-2	+39	+8	--	-5	--	-9	+31	--
Max Diff[c]	+55	-59	+45	+14	+67	+41	-29	-21	+23	+19	-35	+26	-28	+63	+37	--	-20	--	-37	+76	--

[a] Comparison based on averages involved only those samples on which mill test data were submitted

[b] Average difference is the difference between the Institute mill average and the mill average based on mill test data.

[c] Maximum difference encountered in comparing the Institute average and the mill averages for any sample submitted by that particular mill.

TABLE XXVII

COMPARISON OF INSTITUTE-MILL DIFFERENCES FOR OCTOBER AND NOVEMBER, 1962
(Average Difference, per cent)

Mill	Period	Basis Weight	Caliper	Bursting Strength	Tear, in	Tear, cross	Mill	Period	Basis Weight	Caliper	Bursting Strength	Tear, in	Tear, cross
A	June-July	+1	-4	+7	+11	+10	L	June-July	+0.7	-0.8	0	+1	+5
	Aug.-Sept.	+0.2	-4	+7	+20	+16		Aug.-Sept.	+0.5	0	+2	+3	+3
	Current	+0.5	-5	-2	+7	+13		Current	+0.7	-0.8	+3	+2	+3
B	June-July	--	--	--	--	--	M	June-July	+0.9	-2	0	+6	+4
	Aug.-Sept.	--	--	--	--	--		Aug.-Sept.	-0.5	-2	0	+2	+2
	Current	+0.5	-2	+3	-16	-10		Current	+0.5	-2	-2	+1	-0.5
C	June-July	-1	-2	+2	+11	+2	N	June-July	-1	-2	+3	+12	+13
	Aug.-Sept.	-0.9	-2	+4	+11	+0.5		Aug.-Sept.	+0.9	-2	+2	+15	+16
	Current	+0.7	-4	+2	+11	+6		Current	+0.7	-4	-0.9	+9	+10
D	June-July	+0.2	-2	+10	-0.3	+1	O	June-July	+0.9	-2	+7	+9	+8
	Aug.-Sept.	-0.5	-5	+6	+5	+2		Aug.-Sept.	+0.7	-2	+5	+10	+9
	Current	+1	0	0	-1	+2		Current	+1	-4	+7	+5	+2
E	June-July	+0.9	-2	+5	+5	+15	P	June-July	--	--	--	--	--
	Aug.-Sept.	+1	-2	+4	+2	+11		Aug.-Sept.	--	--	--	--	--
	Current	+2	-2	0	+2	+10		Current	--	--	--	--	--
F	June-July	+1	-2	+3	+0.6	+2	Q	June-July	+0.5	-3	+4	+2	+1
	Aug.-Sept.	+0.9	-4	0	+3	+6		Aug.-Sept.	-0.5	-4	+2	-4	+2
	Current	+2	-2	+0.9	+5	+3		Current	-0.2	-3	+5	-8	-1
G	June-July	-0.9	-0.8	+3	-11	-0.9	S	June-July	--	--	--	--	--
	Aug.-Sept.	-0.5	-0.7	+2	-8	-1		Aug.-Sept.	--	--	--	--	--
	Current	0	-2	+3	-13	-4		Current	--	--	--	--	--
H	June-July	+0.5	-2	+3	+7	+8	T	June-July	0	-2	+2	0	+1
	Aug.-Sept.	+0.7	-0.8	+2	-2	+5		Aug.-Sept.	-0.2	-0.8	+2	+1	+7
	Current	+1	-0.8	+0.9	-9	-0.8		Current	-0.9	-4	0	-6	-2
I	June-July	-0.7	-4	+4	-11	-2	U	June-July	-0.2	-2	-0.9	+13	+12
	Aug.-Sept.	0	-3	+0.9	-5	+5		Aug.-Sept.	-0.5	+0.8	0	+8	+12
	Current	-0.7	-4	-2	-2	+7		Current	+0.9	-2	+4	+5	+9
J	June-July	+0.9	0	-3	-4	+4	V	June-July	-0.7	0	+5	--	--
	Aug.-Sept.	+0.5	-2	-3	-5	+2		Aug.-Sept.	+0.2	-0.8	+6	--	--
	Current	+1	-2	-3	-6	+2		Current	0	-2	+7	--	--
K	June-July	-0.5	-4	+3	-0.3	0	W	June-July	-0.5	-2	+9	-13	-14
	Aug.-Sept.	-0.5	-3	+0.9	-4	-3		Aug.-Sept.	--	--	--	--	--
	Current	0	-4	-4	-5	-5		Current	--	--	--	--	--

TABLE XXVIII

SUMMARY OF AGREEMENT BETWEEN INSTITUTE AND MILL RESULTS
(October and November, 1962)

	Average Percentage Difference Between Institute and Mill Test Results								
	±0.5	±1	±2	±3	±4	±5	±7.5	±10	±16
Basis weight									
Number of mills	7	17	19						
Percentage of all mills	36.8	89.5	100.0						
Caliper									
Number of mills	1	3	11	12	18	19			
Percentage of all mills	5.3	15.8	57.9	63.2	94.7	100.0			
Bursting strength									
Number of mills	3	6	10	14	16	17	19		
Percentage of all mills	15.8	31.6	52.6	73.7	84.2	89.5	100.0		
Tearing strength, in									
Number of mills	0	2	5	5	5	9	12	15	18
Percentage of all mills	0.0	11.1	27.8	27.8	27.8	50.0	66.7	83.3	100.0
Tearing strength, cross									
Number of mills	1	3	7	9	10	11	13	17	18
Percentage of all mills	5.6	16.7	38.9	50.0	55.6	61.1	72.2	94.4	100.0

TABLE XXIX

PRECONDITIONING AND CONDITIONING DATA FOR MILL TESTS
(October and November, 1962)

Mill Code	Preconditioning			Conditioning		
	R.H., %	Temp., °F.	Time, hr.	R.H., %	Temp., °F.	Time, hr.
A	50	72-73	48-120	50	72-73	48-120
B	23-32	100-120	24	50	73	24
C	50-51	73-75	48+	50	73	48+
D	50	73	24	50	73	24
E	50	72	24		None	
F		None		50	73	24
G		None		35-75	65-85	--
H	35	73	24	50	73	48
I	52	74-77	48	52	74-77	3
J		None		50	73	24
K	34-35	77-78	8	48-52	71-72	16
L	50	73	24	50	73	24
M		None		50	73	24
N	50	70-72	120	50	70-72	120
O	50	70	24	50	70	24
P			No Samples Submitted			
Q		None		50-54	73	48
S			No Samples Submitted			
T	38-64	64-96	0.5-30	50	73	0.5-24
U		None		55-57	70-72	--
V		None		50	73	24-72
W			No Samples Submitted			

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